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<b>Application for (</b>		<b>Specify from (k)</b>	
<b>Principle Applic</b>	Solana County Water Agency	<b>Does Proposal in</b>	<input type="checkbox"/>
<b>Project Title</b>	Large Landscape ET Controller System Proj		
<b>First Name-Aut</b>	David B.		
<b>Last Name (AA)</b>	Okita		
<b>Title</b>	Gen. Mgr.		
<b>Street Address</b>	508 Elmira Rd.		
<b>PO Box</b>			
<b>City</b>	Vacaville		
<b>State</b>	Ca		
<b>Zip Code</b>	95687		
<b>Telephone Num</b>	(707) 451-29		
<b>Fax Number (Inc</b>	(707) 448-7		
<b>E-mail Address</b>	dokita@scwa2.com		
<b>First Name-Con</b>			
<b>Last Name-CP</b>			
<b>Contact-Title</b>			
<b>Contact-Street</b>			
<b>Contact-PO Box</b>			
<b>Contact-City</b>			
<b>Contact-State</b>			
<b>Contact-Zip Cod</b>			
<b>Contact-Phone</b>			
<b>Contact-Fax Nu</b>			
<b>Contact-E-Mail</b>			
<b>Funds Requeste</b>	\$391,219.00		
<b>Applicant Funds</b>	\$66,764.00		
<b>Total Project Co</b>	\$457,983.00		
<b>Estimated Total</b>	\$935,542.00		
<b>Percentage of Be</b>	100%		
<b>Percentage of Be</b>	0%		
<b>Estimated Annu</b>	192		
<b>Estimated Total</b>	1344		

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Estimated Benef	<div></div>
Duration of Proj	<div>10/02-10/03</div>
State Assembly	<div>7</div>
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State-Wide	<div><input type="checkbox"/></div>
County-location	<div>Solano</div>

Most recent Urb	1/12/2001
Type Applicant-	e) other-subdivision of st
DWR WUE Proje	
Project Focus	b) Urban
Project Type	a) Implementation of Ur
Quantifiable Ob	0

**Consolidated Water Use Efficiency 2002 PSP**  
**Proposal Part Two:**

**Project Summary**

This grant application, by the Solano County Water Agency (SCWA), is for the purchase and installation of ET Controller systems for large public landscapes. ET Controller systems consist of solenoid valve controllers at each landscape site linked to a central computer programmed with software to maximize irrigation efficiency. A weather station is also used to get daily data on evapotranspiration, wind and other factors important to irrigation efficiency. The large public landscapes are located in four cities and three school districts within Solano County. The locations of the landscapes are shown on Map 1. This grant application covers all the major cities in Solano County and several different climates.

The goals and objectives of this project is to reduce public agency water use and to demonstrate the use of this technology to encourage expanded use by other public agency landscapes and private sector landscapes.

A total of thirteen large public landscapes, from one acre to 35 acres in size, are included in this grant application. Green Tech will supply and install Rain Master ET Controller systems at these locations in coordination with the sponsoring public agencies that will be operating and maintaining the equipment. The public agency staff will be working with Green Tech to install the ET Controller systems and will be trained in their use and maintenance.

There will be measurable reductions in irrigation water use. For the thirteen large landscape sites included in this grant, we expect water savings of approximately 192 AF/year. This water savings has a value of over \$133,000 annually. Green Tech has provided us estimates on water saving and these estimates have been used in this analysis. We expect that these water savings will increase substantially with expansion of the program after initial grant funding and after SCWA performs outreach with the local results of the use of the ET Controller systems. There will be an ongoing monitoring and reporting program for each site to document savings so that this information can be presented to other public and private entities who may wish to install similar type equipment. In addition to savings in water costs, we expect a decrease in landscape maintenance costs through increased efficiencies of the new system.

A cost benefit analysis has been done on each site location. A positive cost benefit ratio (greater than 1.0) was calculated for each of the locations using a present value analysis based upon all costs being local costs. A seven year life was assumed for the ET Controllers and long term maintenance costs were subtracted from annual benefits. The dollar benefits for each public agency varied significantly because the cost of water and amount of water savings in each of the public agencies is different.

In summary, this is a cost effective program which provides significant real water and dollar savings to the public agencies and is expected to lead toward expanded implementation of ET Controllers on other large landscapes, both publicly and privately owned. Future expansions will be even more cost effective since this grant will be funding some infrastructure, like weather stations, central computers and communications devices, that will not have to be duplicated for other projects.

## **A. Scope of Work: Relevance and Importance**

### **1. Nature, Scope and Objectives of the Project**

This grant application is for the purchase and installation of ET Controller systems for 13 large public landscapes. After review of various Best Management Practices and other water conservation measures it was determined, among the water conservation staff within the public agencies in Solano County, that large landscapes are a high priority. These large landscapes are large water users and use large amounts of water during peak summer demand periods. The technology of ET Controllers is a proven technology. Solano water conservation staff toured the City of Davis facilities and researched other places where this technology is used to better understand the benefits of ET Controllers. Our analysis shows that the ET Controllers on large landscapes give us a good opportunity to reduce water use in a cost-effective manner. There is also a great potential for expansion of this program to numerous other sites in each city. Since many ET Controllers can share the same centralized computers, weather stations and communication facilities that will be funded by this grant, the program can be expanded in the future at less cost.

ET Controller systems consist of solenoid valve controllers at each landscape site linked to a central computer programmed with software to maximize irrigation efficiency. A weather station is also used to get daily data on evapotranspiration, wind and other factors important to irrigation efficiency. See Table 1 for the list of agencies involved, sites and acreage of landscaped areas. The sizes of the landscapes range from one acre to 35 acres. This wide range of landscapes captures the range of other typical landscapes in Solano County. The site locations are also geographically spread throughout the County and includes the varied climates of Solano County.

Estimated water savings for these 13 sites are 192 AF/year. We consider this amount “the tip of the iceberg.” A major component of this grant is to publicize the results of this program to encourage expansion of the program to other large public and private landscapes. The goal is to reduce water use of large landscapes, initially, in public sector large landscapes through this grant, but ultimately for both public and private sector large landscapes when the benefits are demonstrated through this grant.

### **2. Statement of Critical Local, Regional, Bay-Delta, State or Federal Water Issues.**

As with most other communities in California, Solano County faces critical water issues in the future. Our major sources of water supply, the Federal Solano Project and the State Water Project’s North Bay Aqueduct are, at best, fixed amounts of water supply. Long term projections show that additional water supplies are needed for planned future growth. We are currently seeking additional water supplies and appropriations, but also understand the need to address demand management. Demand management is an integral part of each public agency’s Urban Water Management Plan and other water conservation plans. Installation of ET Controllers are consistent with the public agencies’ Urban Water Management Plans and water conservation plans that are required by the Bureau of

Reclamation for Solano Project water supply. These Federal Water Conservation Plans are equivalent to the CVPIA Water Conservation Plans. Additionally, demand management is an important part of State, Federal and CALFED policy and makes common sense to implement if cost effective.

## **B. Scope of Work: Technical/Scientific Merit, Feasibility, Monitoring and Assessment**

### **1. Methods, Procedures, and Facilities**

The Rain Master ET Controller System consists of several components that when interconnected result in a water, energy and labor efficient irrigation system. At each large landscape site Rain Master satellite controllers handle up to 48 solenoid valves that each control groups of sprinkler heads. Larger sites will have multiple satellite controllers. These controllers are linked to valves and sensors that allow it to manage all irrigation under its control. The satellite controllers are linked by radio, phone or hard wire to a central control computer. This one central computer can run all Rain Master controllers for the whole city or district. See Figure 1 for a schematic of the computer and the satellite controllers.

The central computer is linked to a dedicated weather station(s) to provide it with real time ET, wind, temperature and other meteorological information.

The central computer is programmed with Rain Master Evolution software and Advanced Irrigation Management (AIM) software. The Evolution software features a user-friendly graphical interface. The software uses data from the weather station and pre-programmed characteristics of the landscape and determines optimal irrigation needs. The AIM software analyzes the water demand and distributes the water to different valves to conduct irrigation in the most efficient manner. This results in a condensed period of irrigation which reduces pumping costs and can help avoid irrigation peak city water use periods.

The central computer, the satellite controllers and weather stations are connected by radio, phone line or hard wire. A major capital cost of this system is the communication components to link these devices. Since only one central computer and one weather station (or multiple stations if there are significantly different microclimates) are needed for each agency, the satellite controllers can be located some distance from the central computer. A series of antennas and repeaters are necessary to make this system work.

Green Tech provides a standard 5-year warranty on all its products and provides ongoing training. Appendix D provides information on Green Tech and Rain Master

### **2. Task List and Schedule**

Based on the anticipated timing of grant funds being available, the ET Controller equipment is anticipated to be installed in spring and summer of 2003 in time for the

2003 irrigation season. Once grant approval is received, the equipment will be ordered and installation and training scheduled. All public agencies have committed to this time schedule. All grant funding is expected to be expended within one year of grant award. See Table 5 for a schedule of work to be done and identification of tasks.

### **3. Monitoring and Assessment**

Extensive monitoring and assessment of results will be done. Each of the sites have dedicated meters so there are accurate numbers on past water usage. Each of the public agencies will be reporting to SCWA annually on water use comparing water use with the new ET Controllers to prior water usage. Estimates for water savings have been provided by Green Tech based on their experience with similar landscapes. Of course, these estimates will be verified in the field after installation and operation of the ET Controllers. These water savings estimates, as shown in Table 4, are the objectives for this grant.

Annual reports will be required for at least ten years to ensure we cover a wide variety of hydrologic conditions. This information will be used not only to report to CALFED but also to promote the program to encourage program expansion to other public agency and private sector large landscapes. Results will be disseminated in a newsletter format (and in the SCWA web page) to present the results of the water savings in the most effective manner. SCWA will also sponsor workshops for public agencies and the private sector on the results of the program to encourage expansion.

### **4. Preliminary Plans and Specifications and Certification Statements**

Appendix A lists the specifications for all of the ET Controller components for each of the large landscape projects. Table 2 is a summary of costs for each of the large landscape projects. These specifications were developed by Green Tech experts in coordination with each of the public agency representatives to ensure that the appropriate equipment was selected and that that equipment meets the specific needs of each site. Appendix B is a certification statement by a licensed civil engineer to verify that the project is feasible.

## **C. Qualifications of the Applicants and Cooperators**

This application was prepared by the Solano County Water Agency in coordination with the cities of Benicia, Fairfield, Vacaville, Vallejo, the Benicia Unified School District, the Fairfield-Suisun Unified School District and the Vallejo Unified School District. SCWA provides wholesale water supply from the Federal Solano Project and the State Water Project's North Bay Aqueduct. SCWA takes a lead role in water supply issues in Solano County. For water conservation, since SCWA is not a retailer, cities and district perform retail level water conservation activities. SCWA has an Urban Water Conservation Committee made up of representatives from each of the cities and districts providing M&I that meets on a regular basis to plan joint water conservation projects such as Countywide

poster contests, Countywide exhibits and other water conservation projects of a Countywide or regional basis. This application for ET Controller equipment was developed through the Urban Water Conservation Committee and its members will be involved in all phases of the program from construction through monitoring.

This program will be conducted under the supervision of David Okita, General Manager of SCWA. Appendix C contains the resume of Mr. Okita. The technical representative from Green Tech is Tony Yarish, District Manager for Green Tech. Also in Appendix C is Mr. Yarish's resume. At the local level, each of the public agencies where a project is located has identified staff that will be responsible for working with Green Tech to install, operate and maintain the ET Controller system. These staff will be trained by Green Tech to operate and maintain the ET Controllers. Due to the large number of these staff individuals, their resumes have not been included, but all are qualified landscape professionals.

## **D. Benefits and Costs**

### **1. Budget Breakdown and Justification**

- a. There will be no land purchases or easements. All the equipment is going to be installed on the property of a public agency involved in the program.
- b. There is no planning/design/engineering costs as these tasks have been completed as part of the preparation of this grant by Green Tech and the public agency staff working with Green Tech.
- c. Installation costs can be categorized into two areas. The first is the labor costs by Green Tech to install the equipment. Table 2 shows a summary of these costs for each of the project locations. There also is a cost of the local agencies to prepare the existing system accept the ET Controllers. This includes costs for tasks such as trenching of cable and conduit, installing control valves and sensors. These local costs, which also constitute a local matching cost to the grant, are shown in Table 3 for each of the landscape areas.
- d. There is no cost for structures as the ET Controller equipment are designed to withstand the elements in their enclosure structures.
- e. Table 2 and Appendix A provide detail of the equipment purchases that make up the ET Controller system.
- f. No environmental mitigation is necessary. This project is exempt from CEQA under Section 15301 of the CEQA Guidelines. This Section of the CEQA Guidelines deals with operation, repair, maintenance or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that previously existing.



- g. There will be no grant funding of construction/administration overhead. The participating public agencies will provide adequate staffing to ensure that the program is implemented as specified in this grant at their own expense. SCWA will ensure that each of the participating agencies perform their duties via an agreement entered into with each public agency after the grant is awarded. Such agreement will also require ongoing monitoring of results and reporting back to SCWA.
- h. The only license fees involved in this project are the Federal Communications Commissions license application fees for the radio communications part of the project.
- i. Contingencies have not been included in this grant since the cost of equipment is known.

Another economic benefit is the potential long term landscape maintenance labor cost savings by participating public agencies. Other public agencies that have installed similar ET Controller equipment find that there can be considerable labor savings through use of ET Controllers. This has not been quantified in this grant application and one of the parameters that we will have each of the participating public agencies measure, at least qualitatively, to see if there are measurable maintenance labor savings. This information will be disseminated along with quantifiable water savings as part of the documentation of the programs success.

## **2. Cost Sharing**

There will be considerable cost sharing from the local public agency participants. Table 3 shows the local costs for installation and training. As shown in Table 5, all these funds are planned to be expended within 12 months of grant award. There will be a cost of operating this equipment on an ongoing basis but that cost is not expected to be an increase over current costs of operating existing equipment. The only exception is the annual cost of maintenance of the weather stations (\$1160 per year for each weather station), which will be a local cost. In many cases operational costs are less with ET Controllers. There is also a minor cost of providing annual monitoring reports to SCWA for use of assessing success of the grant and for advocating expansion of the program to other public agency landscapes and private sector landscapes. SCWA will fund costs of publication of project results and SCWA will provide staffing to facilitate workshops aimed at expanding the program. We have written commitments from each of the public agencies for the funding and staffing to complete the work if the grant is awarded.

## **3. Benefit Summary and Breakdown**

Project outcomes and benefits will be different for each large landscape project. There will be a direct water reduction resulting in a significant water savings. The range of water savings is projected from 20% to 50%. This varies due to hydrologic conditions, current efficiencies and other factors. Projected water and cost savings are shown in Table 4.

#### **4. Assessment of Costs and Benefits**

The costs assume that all work would be done in fiscal year 2002-2003. Our understanding of the grant award timing would be that funding would be possible available in the fall of 2002. We anticipate installation of the equipment during the spring and summer of 2003 in time for the 2003 irrigation season. The value of water saved from the equipment is based upon water rates in each jurisdiction charged for large landscapes. The costs of landscape irrigation water supply varies considerably among the public agencies due to different rate structures and costs of sources of water.

In accordance with guidelines from CALFED, the life of an ET Controller systems was set at seven years, therefore the benefit streams included in the cost benefit analysis were only considered over seven years. The benefit streams were converted to present value at 6%, as required. Long-term maintenance costs were converted to present value at 6%. Table 4 contains a summary of the cost benefit analysis for each of the large landscape projects. All the identified projects have a cost benefit ratio equal to or greater than 1.0. Potential other large landscape projects were rejected that did not meet the positive cost benefit analysis as required under the grant. The cost benefit analysis requires that the projects be justified even without grant funding.

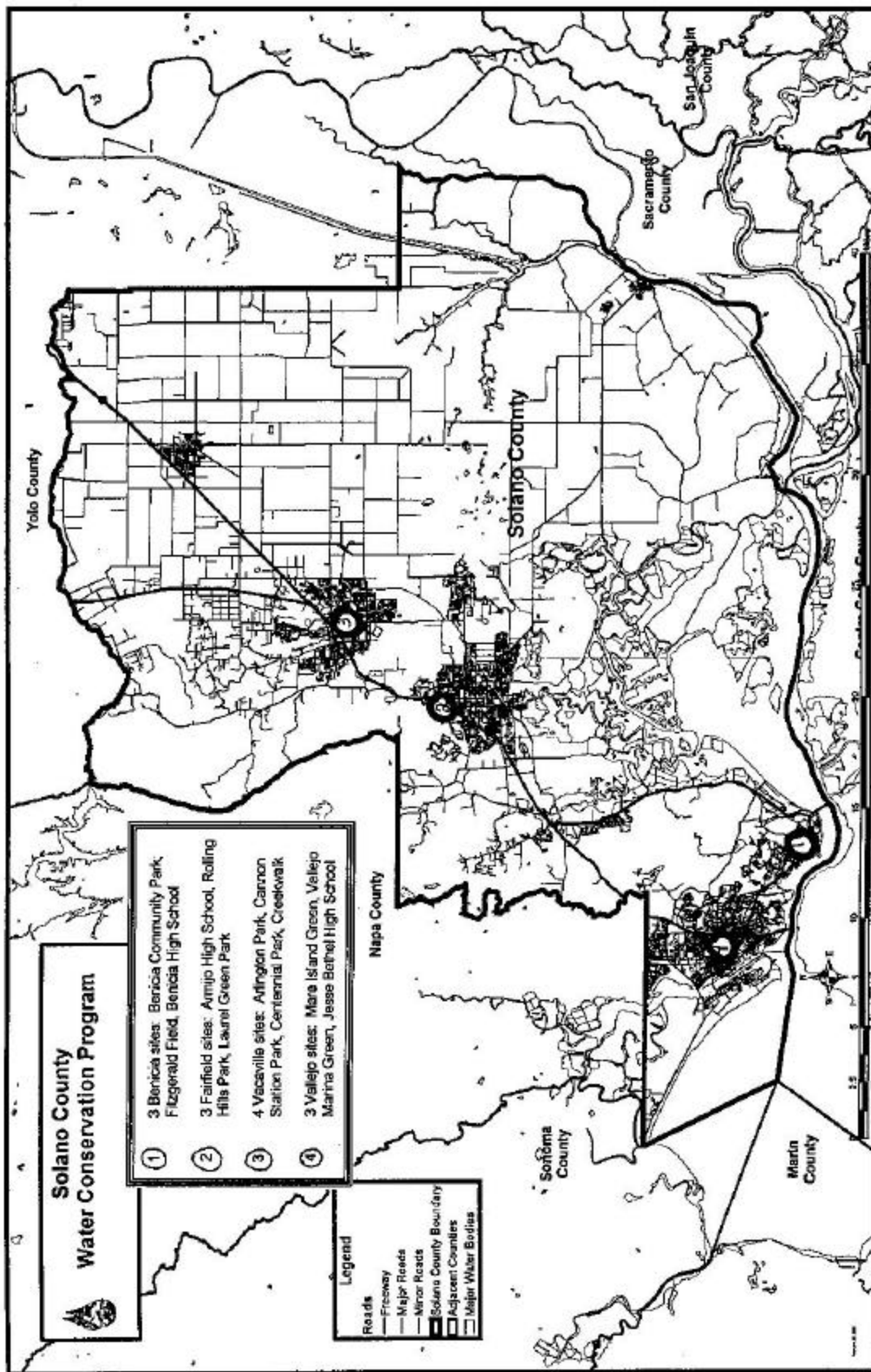
Benefits accrued from water savings go to the sponsoring public agencies. Many of these agencies intend to reinvest those savings into additional ET Controller equipment to expand the program to their other large landscape sites. These water savings also contribute to meeting the water use efficiency goals of local agencies and to CALFED.

#### **E. Outreach, Community Involvement and Acceptance**

There is widespread community involvement in this project as the locations for the installation of the ET Controllers are throughout Solano County. For each location a public agency has been and will be intimately involved in implementing the program, including reporting results. They have also pledged to help assist in publicizing the program to expand the program to other participants both in the public sector and the private sector.

After the first irrigation season, SCWA will publish a report of the findings of the water savings from the ET Controller program. This information will be provided to CALFED, summarized in city publications (such as city water bill articles), included in press releases, and included in the SCWA web page. SCWA, along with the public agency sponsors will sponsor workshops promoting the program and advocating expansion.

There will also be training opportunities for public agency staff. We plan to have 56 people be trained to operate and maintain the ET Controllers. This type of program does not create new jobs, however it provides a higher level of efficiency in managing these large landscapes. The "high tech" training will undoubtedly have positive benefits in the public agency workforce.



MAP 1 - LOCATIONS

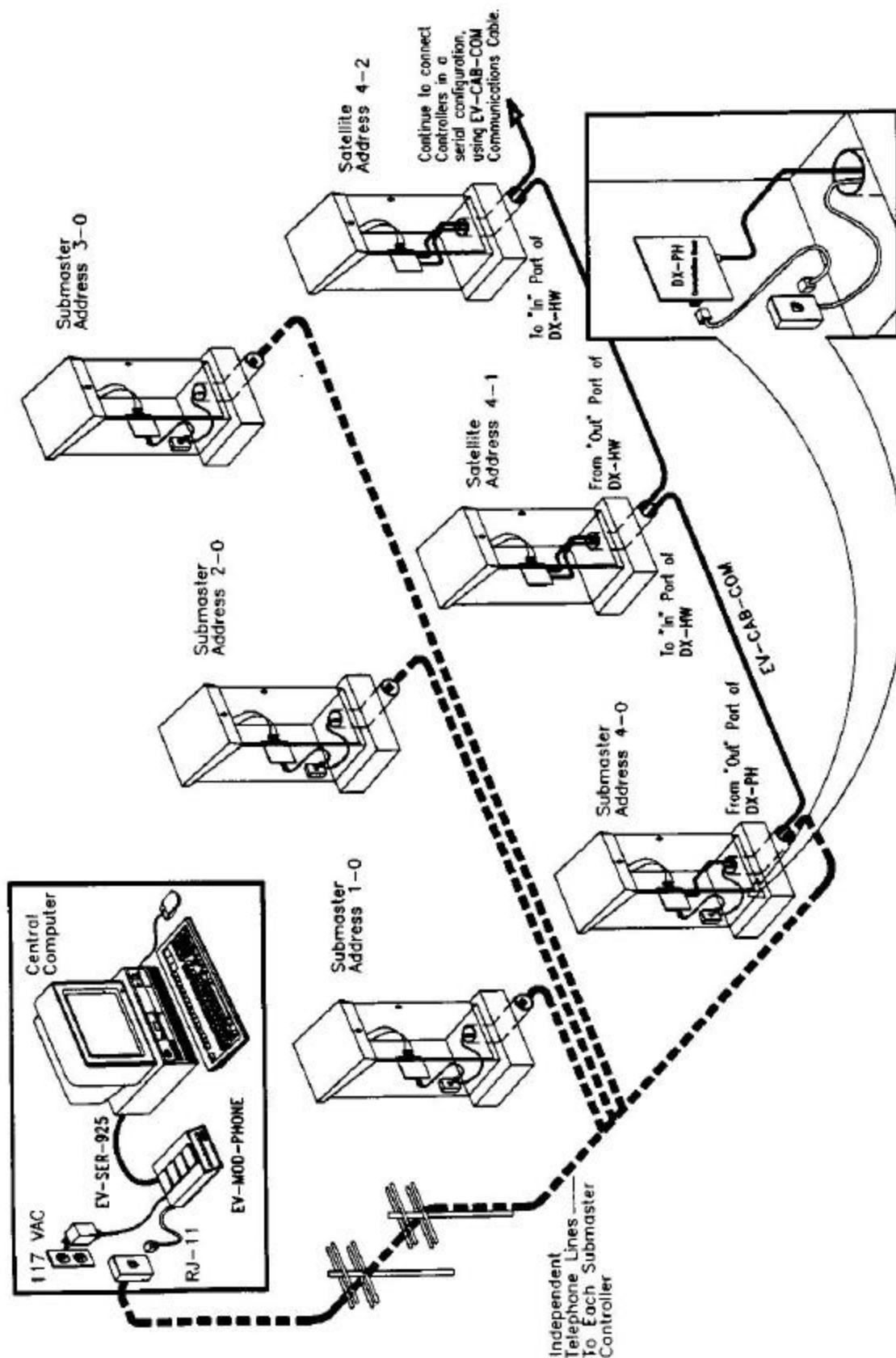


FIGURE 1 - SCHEMATIC OF COMPUTER AND SATELLITE CONTROLLERS

**TABLE 1 - LANDSCAPE LOCATIONS**

<b><u>Public Agency</u></b>	<b><u>Site Location</u></b>	<b><u>Acres</u></b>
City of Benicia	Community Park	35
City of Benicia	Fitzgerald Field	3
Benicia Unified School District	Benicia High School	6
City of Fairfield	Rolling Hills Park	2
City of Fairfield	Laurel Creek Park	28
Fairfield-Suisun Unified School District	Armijo High School (2 Controllers)	27
City of Vacaville	Arlington Park Phase 1 and Phase 3	18
City of Vacaville	Cannon Station Park	7
City of Vacaville	Creekwalk	7
City of Vacaville	Centennial Park	14
City of Vallejo	Water Front Green	4
City of Vallejo	Marina Green	1
Vallejo Unified School District	Jesse Bethel High School	15

Total: 167 acres

**TABLE 2 - SUMMARY OF GRANT FUNDED COSTS**

<b><u>Site Location</u></b>	<b><u>Equipment</u></b>	<b><u>Labor</u></b>	<b><u>Total</u></b>
City of Benicia	\$81,708	\$6,830	\$88,538
Benicia Unified School District	\$11,478	\$1,860	\$13,338
City of Fairfield	\$63,474	\$8,515	\$71,989
Fairfield-Suisun Unified School District	\$62,485	\$5,020	\$67,505
City of Vacaville	\$64,382	\$6,915	\$72,457
City of Vallejo	\$15,304	\$2,600	\$17,904
Vallejo Unified School District	\$52,833	\$6,655	\$59,488
<b>TOTALS</b>	<b>\$351,664</b>	<b>\$38,395</b>	<b>\$391,219</b>

**TABLE 3 - SUMMARY OF LOCAL COSTS**

<b><u>Site Location</u></b>	<b><u>Installation Costs</u></b>	<b><u>Staff Training</u></b>	<b><u>Total</u></b>
City of Benicia	\$13,000	\$3,000	\$16,000
Benicia Unified School District	\$5,000	\$1,500	\$6,500
City of Fairfield	\$5,250	\$3,000	\$8,250
Fairfield-Suisun Unified School District	\$6,880	\$3,000	\$9,880
City of Vacaville	\$0	\$1,624	\$1,624
City of Vallejo	\$9,450	\$1,600	\$11,050
Vallejo Unified School District	\$10,320	\$640	\$10,960
<b>TOTALS</b>	<b>\$49,900</b>	<b>\$14,364</b>	<b>\$64,264</b>

SCWA costs for publication of results - \$500.

SCWA costs for 3 workshops to promote expansion of project - \$2,000.

**TOTAL LOCAL COSTS - \$66,764**

**TABLE 4 - COST/BENEFIT ANALYSIS**

	<b>City of Benicia</b>	<b>Benicia Unified School District</b>	<b>City of Fairfield</b>	<b>Fairfield- Suisun Unified School District</b>	<b>City of Vacaville</b>	<b>City of Vallejo</b>	<b>Vallejo Unified School District</b>
Acres	38	6	30	27	46	5	15
Pre-Project Water Use (AF)	96	61	88	80	132	20	72
Water Savings (AF)	47	24	24	22	46	7	22
Unit Cost (\$/AF)	\$788	\$788	\$784	\$784	\$427	\$758	\$758
Dollar Savings/Year	\$37,036	\$18,912	\$18,816	\$17,248	\$19,642	\$5,306	\$16,676
Maintenance Costs	\$1,160	\$0	\$1,160	\$1,160	\$1,160	\$0	\$1,160
Local Capital Costs	\$13,000	\$5,000	\$5,250	\$6,880	\$0	\$9,450	\$10,320
Local Training Costs	\$3,000	\$1,500	\$3,000	\$3,000	\$1,624	\$1,600	\$640
Grant Capital Costs	\$88,538	\$13,338	\$71,989	\$67,505	\$72,457	\$17,904	\$59,488
PV Capital Costs	\$104,538	\$19,838	\$80,239	\$77,385	\$74,081	\$28,954	\$70,448
PV Net Benefits	\$200,274	\$105,574	\$98,563	\$89,809	\$103,174	\$29,620	\$86,616
Cost/Benefit Ratio	1.9	5.3	1.2	1.2	1.4	1.0	1.2



## **TABLE 5 - SCHEDULE OF WORK**

### **Quarter No. 1**

### **Costs**

October 2002 - January 2003

Task 1 - SCWA Contracts with Public Agencies	None
Task 2 - Order Equipment	None
Task 3 - Local Installation and Training: Benicia Parks and Benicia USD	\$22,500
Task 4 - Greentech Materials and Labor: Benicia Parks and Benicia USD	\$101,876
<b>Total Costs Quarter No. 1</b>	<b>\$124,376</b>

### **Quarter No. 2**

### **Costs**

January 2003 - April 2003

Task 5 - Local Installation and Training: Fairfield Parks and Fairfield-Suisun USD	\$18,130
Task 6 - Greentech Materials and Labor: Fairfield Parks and Fairfield-Suisun USD	\$139,494
<b>Total Costs Quarter No. 2</b>	<b>\$157,624</b>

### **Quarter No. 3**

### **Costs**

April 2003 - July 2003

Task 7 - Local Installation and Training: Vacaville Parks	\$1,624
Task 8 - Greentech Materials and Labor: Vacaville Parks	\$72,457
<b>Total Costs Quarter No. 3</b>	<b>\$74,081</b>

### **Quarter No. 4**

### **Costs**

July 2003 - November 2003

Task 9 - Local Installation and Training: Vallejo Parks and Vallejo USD	\$22,010
Task 10 - Greentech Materials and Labor: Vallejo Parks and Vallejo USD	\$77,392
Task 11 - SCWA Reporting and Workshops	\$2,500
<b>Total Costs Quarter No. 4</b>	<b>\$101,902</b>

## **TOTAL EXPENDITURES**

**\$457,983**

## **APPENDIX A - SPECIFICATION LISTS**

See the following Excel Files on this disk.

- ?? Benicia SA GRNT XLS
- ?? Benicia USD. 5yr Grant
- ?? City of Fairfield 5yr rvsd XLS
- ?? Frfld-Susun USD. 5yr GRANT XLS
- ?? Vacaville Grant Propls
- ?? City of Vallejo GRNDS. 2yr JOE XLS
- ?? Vallejo USD. 5yr GRANT xls

## **APPENDIX B - CIVIL ENGINEERING CERTIFICATION**

I hereby certify that the Solano ET Controller System Large Landscape Conservation Project is feasible. The Preliminary Plans and Specifications were prepared under my supervision and I have reviewed all documents included in this grant submittal.

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David B. Okita  
California Registered Civil Engineer No. 33406  
My current registration expires 6/30/02

March 1, 2002

## **APPENDIX C - RESUMES**

## **DAVID OKITA**

David Okita is the General Manager of the Solano County Water Agency. He has been in this position for 12 years. The Solano County Water Agency provides a wholesale water supply of about 250,000 acre feet per year to cities and irrigation districts in Solano County from the Federal Solano Project and the North Bay Aqueduct of the State Water Project. The Water Agency also is responsible for flood control in Solano County. David Okita serves on the Board of Directors, and is the current president, of the State Water Contractors - an organization of agencies which receive water from the State Water Project.

## **EDUCATION**

Master of Public Administration: December 1980  
California State University, Hayward

Bachelor of Science : June 1978  
University of California at Davis  
Civil Engineering

## **EMPLOYMENT HISTORY**

1989 - present: Solano County Water Agency / Vacaville, California  
Position: General Manager

1978 - 1989: Contra Costa County / Martinez, California  
Last Position: Assistant Director Community Development Department  
Previous Positions: Various engineering and planning positions in the Public Works and Community Development Departments

## **LICENSES**

Civil Engineer - California: No. 33406

## **PROFESSIONAL AFFILIATIONS**

Association of California Water Agencies  
American Society of Civil Engineers  
American Water Works Association  
Floodplain Management Association  
California Central Valley Flood Control Association

Professional Resume for Tony Yarish, District Manager  
United Green Tech

Experience:

7/99 to current: District Manager, UGT – Northern California District - Design and consult on Central Control Irrigation Systems for city parks, public works departments, school districts, county park systems, highway landscapes, colleges, universities, and estate residential.

Member of The American Society of Irrigation Consultants

1981 to 1999: Yarish Landscape Co., Owner - A design / build company, commercial and high end residential. Located in Northern California and Southern Oregon.

California Landscape Contractor, C-27 #489859, Oregon Landscape Contractor, All Phases, #11931, Oregon Certified Backflow Installer.

Education:

San Francisco State University – Social Psychology

College of Marin – Landscape Design & Management, Business Administration

## **APPENDIX D - GREENTECH / RAIN MASTER** **INFORMATION**



**UNITED GREEN TECH** was founded in 1986 as the technical division of **UNITED GREEN MARK**, which has become one of the largest green industry distribution corporations. **UGT** is the industry's leading landscape management products and services company.

**UGT** was first to meet the market need for technical expertise and field engineering capability on the latest, sophisticated, computer-based irrigation control equipment, serving and assisting public and private organizations, contractors and end-users alike with water conservation efforts in Northern and Southern California.

**UGT** offers more than a decade of specialized skills, know-how and experience, with sales, technical support and field service throughout California. We have shown a distinguished list of organizations how to achieve real dollar savings and resource conservation, representing the state-of-the-art in equipment, tools and methods designed to save money by reducing water, labor, and energy demands in a changing environment.

**UGT** is staffed by a team of some of the best field technicians and sales engineers, manufacturing and support personnel in the industry.

**UGT** works closely with irrigation system design professionals to help select and package the right **RAINMASTER EVOLUTION** components – from computer to controllers – for both new installations, as well as existing irrigation system upgrades to central satellite capability.

**UGT** technicians provide contractors with vital technical help to ensure that everything goes together correctly. Then we test all the hookups and wiring, then certify the installation.

**FINALLY**, our duty shifts directly to the end-user with an unparalleled series of training programs, seminars, and extended warranty service programs designed to help you get the most out of the money-saving features these systems offer.

**“Our goal is making computerized irrigation control system ownership accessible, affordable, and user friendly.”**

#### **MUNICIPALITIES:**

##### **City of Antioch Parks**

Leisure & Community Services Department  
Maintenance Service Center  
Fifth and "N" Streets  
Antioch, CA 94509  
Phone 510 779-6955  
Frank Palmeri

##### **City of Berkeley**

1326 Allston Way

Berkeley, CA

Phone 510 840-3082

Roland Anolin

##### **City of Brentwood**

708 Third Street  
Brentwood, CA 94513  
Phone 925 516-5375  
Ken Desilva

##### **City of Campbell**

70 North First Street  
Campbell, CA 95008

**130-B South Buchanan Circle ? Pacheco, CA 94553**  
**(925) 609-2180 ? (888) 438-7435 ? FAX (925) 609-2188**



## RAIN MASTER "EVOLUTION" CENTRAL SYSTEMS

### "Evolution" Central System users

Phone 408 866-2743

Vince Huppe, Parks Maintenance Sup.

Phone 925 934-3908

Ron Lefier

#### **City of Concord**

1435 Gasoline Alley

Concord, CA 94520

Phone 925 840-7253

Mike Alley

#### **City of Livermore**

Public Works Dept. Maintenance Services Div.

3500 Robertson Park Road

Livermore, CA 9455

Phone 925 373-5228

Ed Murdock, Landscape Maintenance Supv.

#### **City of Davis**

Parks and Community Services

1717 Fifth Street

(Mail: 23 Russell Blvd.)

Davis, CA 95616

Phone 916 757-5626

Roy Jones, Parks Supervisor

Shelly Kennedy, Irrigation Crew Supervisor

#### **City of Milpitas**

1265 N. Milpitas Blvd

Milpitas, CA 95035

Phone 408 586-2601

Carol Randisi, Supervisor

Paul Mullet

### **MUNICIPALITIES (cont.):**

#### **City of Folsom**

Parks Department

50 Natoma Street

Folsom, CA 95630

Phone 916 355-8320

Richard MacGill, Park Superintendent

#### **City of Napa**

Department of Parks and Recreation

1100 West Street

Napa, CA 94559

Phone 707 257-9529

Larry Wright

#### **City of Foster City**

100 Lincoln Centre Drive

Foster City, CA 94404

Phone 650 286-8154

Ken Whitney

#### **City of Redwood City**

1400 Roosevelt Avenue

Redwood City, CA 94061

Phone 650 780-7247

Mike Gibbons, Parks & Rec. Manager

#### **City of Gilroy**

Community Services Department

7351 Rosanna Street

Gilroy, CA 95020-6197

Phone 408 846-0444

Scot Lang

Chris Weske

#### **City of Sacramento-Parks Dept.**

1023 J Street, Room 200

Sacramento, CA 95814-2700

Phone 916-264-5326

Roy Tatman, Project Manager

#### **City of Lafayette**

3675 Mt. Diablo Blvd, Suite 210

Lafayette, CA 94549

#### **City of San Luis Obispo**

Public Works Department

15 Prado Road

San Luis Obispo, CA 93401

## RAIN MASTER "EVOLUTION" CENTRAL SYSTEMS

### "Evolution" Central System users

Phone 805 781-7022

Larry Tolson, Parks Supervisor

Rich Colombo, Parks Supervisor

Todd Bates

#### **City of Santa Clara**

Corporation Yard

1700 Walsh Ave.

Santa Clara, CA 95050

Phone 408 984-3080

John Mendosa, Landscape Supervisor

Michael McCann, Landscape Foreman

#### **City of Santa Cruz**

Parks & Recreation Department

300 Evergreen Street

Santa Cruz, CA 95060

Phone 831 420-5270

Kathy Cavanaugh

#### **City of Sunnyvale**

Department of Public Works

221 Commercial Street

Sunnyvale, CA 94088

Phone 408 730-7597

Larry Laquinto, Urban Landscape

Supervisor

Bill Fosbenner

#### **City of Sunnyvale**

Department of Parks and Recreation

221 Commercial Street

Sunnyvale, CA 94088

Phone 408 730-7539

Scott Morton, Parks Supervisor

#### **City of Vallejo**

555 Santa Clara St.

Vallejo, CA. 94590

Larry Burns, Senior Landscape Inspector

#### **City of West Sacramento**

1951 South River Road

West Sacramento, CA 95691

Phone 916 373-5860

Gary Valine

#### **Contra Costa County**

Public Works Department

255 Glacier Drive

Martinez, CA 94553

Phone 925 313-2181

Dave Edmonds

#### **Bishop Ranch Business Park**

1 Annabel lane,

San Ramon, CA 94583

Phone 510 866-0100

Clark Carroll, Landscape Superintendent

## **RAIN MASTER "EVOLUTION" CENTRAL SYSTEMS**

### **"Evolution" Central System users**

#### **COMMERCIAL USERS:**

##### **EFI, Inc. (Electronics For Imaging)**

303 Velocity Way  
Foster City, CA 94404  
Phone 650-357-3184  
Steven S. Nicholson, Mgr. Facilities

##### **Evergreen Community College**

4750 San Felipe Road  
San Jose, CA 95135  
Phone 408 223-6722  
John Dominguez, Grounds Supervisor

##### **John Muir Medical Center**

1601 Ygnacio Valley Rd.,  
Walnut Creek, CA  
Phone 510 939-3000  
Vince Socia

##### **Folsom Cordova Unified School District**

11458 Elks Circle  
Rancho Cordova, CA 95742  
Phone 916 631-0501  
Paul Parker

##### **Paradise Valley**

2600 Estates Drive  
Fairfield, CA 94533  
Phone 707 432-1160  
Gaylon Rude

##### **Fresno Unified School District**

1833 E Street  
Fresno, CA 93704  
Phone 559 457-3183  
V.M. 559 457-3261  
Charlie King

##### **Parkmerced Apartments**

345 Vidal Drive  
San Francisco, CA 94132  
Phone 415 469-4386  
Steven Maza, Landscape Manager

##### **Humboldt State University**

Grounds + Landscape Services  
1 Harbst Street  
Arcata, CA 95521  
Phone 707 826-3646  
Wayne Hawkins

#### **INSTITUTIONS:**

##### **California State University, Hayward**

25800 Carlos Bee  
Hayward, CA 94542-3081  
Phone 510-885-3479  
Ernie Pereira, Landscape Services Manager  
Harvey Bell

##### **Roseville City School District**

400 Derek Place, Suite G  
Roseville, CA 95678  
Phone 916 782-5289  
David Kingsbury, Director

##### **Cabrillo College**

Maintenance & Operations  
6500 Soquel Drive  
Aptos, CA 95003  
Phone 831 479-6143  
Michael Bellew

##### **Salinas Union High School District**

Maintenance & Operations  
320 Rose Street  
Salinas, CA 93901  
Phone 831 753-4117  
Bill Sawyer

## **RAIN MASTER "EVOLUTION" CENTRAL SYSTEMS**

### **"Evolution" Central System users**

#### **INSTITUTIONS (cont.):**

##### **San Jose City College**

2100 Moorpark Avenue  
San Jose, CA 95128  
Phone 408 298-2181 ext. 3911  
Henry Rodrigues, Grounds Supervisor

##### **San Jose State University**

Grounds Department  
One Washington Square  
San Jose, CA 95192-0010  
Phone 408 924-1974  
Raul Bueno, Grounds Supervisor

##### **San Jose Unified School District**

855 Lenzen Avenue  
San Jose, CA 95126  
Phone 408 535-6551  
Ron Edwards

##### **University of California, Davis**

One Shields Ave.  
Davis, CA 95616-8670  
Phone 530-757-5626  
Ruben A. Garcia  
Superintendent of Plant

##### **University of California, Santa Cruz**

1156 High Street  
Santa Cruz, CA 95064  
Phone 831 459-3667  
Roger Edberg, Asst. Grounds Supv.

#### **HOME OWNER ASSOCIATIONS:**

##### **The Villages**

Maintenance & Operations  
5000 Cribari Lane  
San Jose, CA 95135  
Phone 408 223-4681  
Roberto Guzman, Mgr. of Landscape

## **RAIN MASTER "EVOLUTION" CENTRAL SYSTEMS**

### **"Evolution" Central System users**

ROSE GARDEN WILL GET CENTRAL  
IN 2000

#### **City of San Jose-Rose Garden**

408 Almaden Blvd.  
San Jose, CA 95110  
Phone 408 277-3270  
Steve Roemer

#### **California Polytechnic State University**

Facility Services  
San Luis Obispo, CA 93407  
Phone 805 756-2321  
Fax 805 756-6114  
Doug Overman  
George Mead

Residential

Do we want to add 745 Mt. Home Road?  
Gilo Residence in Woodside (also Mt.  
Home road)  
How about Wallace Residence in Oakville?

#### **City of Carson City**

Parks & Recreation Dept.  
Parks Division  
3303 Butti Way, Building #9  
Carson City, NV 89701  
Phone 775 887-2115  
Fax 775 887-2145  
Scott Fahrenbruch, parks superintendent  
Vern Kraham, Park Planner

#### **Hiddenbrooke Development**

2727 Orion Drive, Vallejo, CA 94591

## RAIN MASTER "EVOLUTION" CENTRAL SYSTEMS

### "Evolution" Central System users

Phone 707 552-1444

Fax 707 552-1483

Jerry Encinias, Construction Manager

#### **City of Pleasanton**

Parks Maintenance Dept. Oper. Service  
Center

3333 Busch Road

Pleasanton, CA 94566

Phone 925 931-5566

Lisa Hagopian, Parks Superintendent

#### **City of Dublin**

Department of Parks and Recreation

100 Civic Plaza

Dublin, CA 94568

Phone 925 833-6630

Dean McDonald

February 27, 2002

**GREEN TECH / RAIN MASTER CENTRAL CONTROL IRRIGATION GRANT COST PROPOSAL  
FOR THE CITY OF BENICIA / FIVE YEAR WARRANTY**

<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>1. COMMUNITY PARK - Combine 4 controllers into 3</u></b>				
<b><u>Controllers A - C</u></b>				
1	SA01-RM7-48	48 Station Painted Wall Mount - Phone Board	\$5,814	
1	SA01-RM6-48	48 Station Painted Wall Mount - Hardwire Board	\$5,373	
1	SA01-RM6-36	36 Station Painted Wall Mount - Hardwire Board	\$4,300	
*230	LABOR	Controller Installation		\$1,885
2	FSAV600-S	6" Saddle Flow Sensor & Master Valve	\$5,022	
<b><u>B. Double Enclosures / Combine 4 controllers into 3</u></b>				
<b><u>Controllers D - F</u></b>				
2	SA01-RM6-48	48 Station Painted Wall Mount - Hardwire Board	\$10,746	
1	SA01-RM6-24	24 Station Painted Wall Mount - Hardwire Board	\$3,270	
*230	LABOR	Controller Installation		\$1,885
2	FSAV600-S	6" Saddle Flow Sensor & Master Valve	\$5,022	
<b><u>2. FITZGERALD FIELD</u></b>				
1	SA03-RM8-12	12 Station Stainless Wall Mount - Phone Board	\$3,276	
*230	LABOR	Controller Installation		\$645
1	RDM	Radio & Dome Antenna	\$2,601	
1	FSAV250-B	2 1/2" Flow Sensor & Master Valve Assembly	\$2,376	
1	EV-WETHR-CNTR	Evolution Weather Center - Wind, Rain and ET sensing	\$7,260	
500'	EV-CAB-WS	Weather Sensing Cable	\$72	
*230	LABOR	Weather Center Installation		\$1,400
<b><u>CENTRAL EQUIPMENT</u></b>				
1	EV-COMPUTER	Commercial Grade Computer - Factory loaded Make: VECTRA VL 420, 256 GHZ Pentium 4 RAM: 256 MB, CD: 40X, HD - 20.0 GB, ZIP DR. IOMEGA 250MB, 1.44 Floppy Dr., Internal Modem 56K V.90 X2, THREE RS232 Serial Ports, MONITOR: 17" HITACHI CM621C, COLOR PRINTER-Deskjet 845C PLUS CABLE WARRANTY: HP - 3 Year, HITACHI - 3 Year DESKJET - 90 Days, APC - 2 Years	\$2,470	
*230	LABOR	Computer & Printer Installation		\$530
<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
	EV-CENTRAL	Evolution Software - which Includes Basic ET operation and all necessary training in operation of Central Irrigation Control System.	\$6,800	

	AIM	Advanced Irrigation Management, flow and pump management software.	\$3,000	
1	EV-MOD PHONE	Phone Modem required at central computer to communicate with satellites.	\$432	
1	RPTR-PH	Remote Repeater Station / Phone	\$6,503	
1	EV-MOD-RF	Data Modem for communications from computer to Repeater	<u>\$1,848</u>	
	FCC LICENSE	FCC License Application Fee		<u>\$485</u>
			<b>\$76,185</b>	<b><u>\$6,830</u></b>
			Tax	<u>\$5,523</u>
				<b><u>\$81,708</u></b>
			Labor	<u>\$6,830</u>
		Total Equipment & Labor	<b><u>\$88,538</u></b>	

**NOTE:** Flow Sensors, sensor cable, Master Valves, and ground rods will be installed by others.  
Prices gauranteed for 30 days.

Submitted by Tony Yarish, District Manager



Guy Creighton  
Director of Maintenance  
Benicia USD

February 14, 2002

**GT/ETS - RAIN MASTER CENTRAL CONTROL IRRIGATION COST PROPOSAL**  
**Five Year Warranty**

<u>Quantity</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>BENICIA HIGH SCHOOL / combine 3 existing controllers into 1</u></b>				
1	SA6-RM8-30	30 Station Stainless Top Entry Pedestal - Radio Board	\$5,229	
1	RHG	Radio & High Gain Antenna Assembly	\$3,487	
*230	LABOR	Controller & High Antenna Installation		\$1,860
1	FSAV-300P	3" Flow Sensor & Master Valve w/ Flow Board Assembly	\$1,962	
	EV-CAB-SEN	Flow Sensor Cable - \$24 per 100'	\$24	
			<b>\$10,702</b>	<b><u>\$1,860</u></b>
			Tax	<u>\$776</u>
				\$11,478
			Labor & License fee	<u>\$1,860</u>
			<b>Total equipment and labor</b>	<b><u>\$13,338</u></b>

**NOTE: FSAV & GROUND ROD INSTALLATIONS DONE BY OTHERS.**  
**All system training included.**

Prices gauranteed for 30 days.

Submitted by Tony Yarish, District Manager

David Ladd  
Public Works Manager  
City of Fairfield

February 27, 2002

**GT/ETS - RAIN MASTER CENTRAL CONTROL IRRIGATION COST PROPOSAL  
CITY OF FAIRFIELD / Five Year Warranty**

<u>Quantity</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>1. ROLLING HILLS PARK</u></b>				
1	SA5-RM8-30	30 Station Stainless Metered Pedestal - Radio Board	\$7,101	
1	RHG	Radio and High Gain Antenna Assembly	\$3,487	
*230	LABOR	Controller & High Gain Installation		\$1,875
1	FSAV-400P	4" Flow Sensor & Master Valve w/ Flow Board Assembly	\$2,320	
100'	EV-CAB-SEN	Flow Sensor Cable - \$24 per 100'	\$24	
1	RPTR-PH	Phone Repeater for communication to distant sites	\$6,503	
1	EV-MOD-RF	Data Modem located at computer	\$1,848	
*230	LABOR	Repeater Installation		\$500
<b>NOTE: Potential site for a weather station.</b>				
<b><u>2. LAUREL CREEK PARK / combine controllers A thru J into 3</u></b>				
1	SA01-RM7-48	48 Station Painted Wall Mount - Phone Board	\$5,814	
1	SA01-RM6-48	48 Station Painted Wall Mount -Hardwire Board	\$5,373	
1	SA01-RM6-42	42 Station Painted Wall Mount -Hardwire Board	\$4,799	
*230	LABOR	Controller Installation and reconfiguration.		\$3,720
2	FSAV-300P+400	3" Flow Sensor, 4" Master Valve & Flow Board Assembly	\$4,662	
1000'	EV-CAB-COM	Communication cable - \$45 per 100'	\$450	
<b><u>CENTRAL EQUIPMENT</u></b>				
1	EV-COMPUTER	Commercial Grade Computer - Factory loaded Make: VECTRA VL 420, 1.7 GHZ Pentium 4 RAM: 256 MB, CD: 40X, HD:20.0 GB, ZIP DR. 10 MEGA 250 MB, 1.44 Floppy Dr., Internal Modem 56K V.90 X2, Three RS232 Serial Ports, MONITOR: 17" HITACHI CM615, COLOR PRINTER-Deskjet 840C PLUS CABLE Windows 2000 only	\$2,470	
*230	LABOR	Computer, Software & Printer Installation		\$535
1	EV-CENTRAL-LITE	Evolution Software - which Includes Basic ET operation and all necessary training in operation of Central Irrigation Control System. Handles up to 15 controllers.	\$4,000	
	AIM	Advanced Irrigation Management / Flow and Pump Management Software	\$3,000	
	EV-WETHR-CNTR	Weather Station: ET Tracker, rain & wind sensing	\$7,260	
*230	LABOR	Weather Station installation		\$1,400
<u>Quantity</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
100'	EV-CAB-WS	Weather Sensor Cable - \$72 per 100'	\$72	
	FCC LICENSE	Radio Frequency license		\$485
			<b>\$59,183</b>	<b>\$8,515</b>
Tax			\$4,291	

	\$63,474
Labor	<u>\$8,515</u>
<b>Total equipment &amp; Labor</b>	<b><u>\$71,989</u></b>

**NOTE: FSAV & GROUND ROD INSTALLATIONS DONE BY OTHERS.**  
**Prices gauranteed for 30 days.**

Submitted by Tony Yarish, District Manager

Joe Bates  
Assistant Maintenance Superinter  
City of Vallejo

February 25, 2002

**GT/ETS - RAIN MASTER CENTRAL CONTROL IRRIGATION COST PROPOSAL**  
**Two Year Warranty**

<u>Quantity</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>1. MARE ISLAND GREEN</u></b>				
1	DX18-SPED-RF	18 Station Stainless Pedestal -Top Entry - Radio Board	\$2,558	
1	RDMB-K	Radio, Dome Antenna, & Bracket Kit	\$2,144	
*230	LABOR	Controller & High Gain Antenna Installation		\$1,300
1	GR-K	Ground Rod Kit	\$25	
1	SP-K	Surge Arrester Kit	\$59	
2	FSAV-250B-K	2 1/2" Flow Sensor & Master Valve w/ Flow Board Kit	\$3,667	
700'	EV-CAB-SEN	Flow Sensor Cable - \$24 per 100'	\$168	
<b><u>2. MARINA GREEN</u></b>				
1	DX6-SPED-RF	6 Station Stainless Pedestal -Top Entry - Radio Board	\$2,188	
1	RDMB-K	Radio, Dome Antenna, & Bracket Kit	\$2,144	
*230	LABOR	Controller & High Gain Antenna Installation		\$1,300
1	GR-K	Ground Rod Kit	\$25	
1	SP-K	Surge Arrester Kit	\$59	
1	FSAV-150P-K	1 1/2" Flow Sensor & Master Valve w/ Flow Board Kit	\$1,208	
100'	EV-CAB-SEN	Flow Sensor Cable - \$24 per 100'	\$24	
			<b><u>\$14,269</u></b>	<b><u>\$2,600</u></b>
			<u>\$1,035</u>	
			\$15,304	
		Labor	<u>\$2,600</u>	
		<b>Total equipment and labor</b>	<b><u>\$17,904</u></b>	

**NOTE: FSAV, EV-CAB-SEN & GROUND ROD INSTALLATIONS DONE BY OTHERS.**  
Prices gauranteed for 30 days.

Submitted by Tony Yarish, District Manager

Mike Woodside  
 Supervisor of Maintenance & Op  
 Fairfield-Suisun USD

February 9, 2002

**GT/ETS - RAIN MASTER CENTRAL CONTROL IRRIGATION COST PROPOSAL  
 Five Year Warranty**

<u>Qunty</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>ARMIJO HIGH SCHOOL / Controller "A"</u></b>				
1	SA6-RM8-30	30 Station Stainless Pedestal - Radio Board	\$5,229	
1	RDM	Radio and Dome Antenna Assembly	\$2,601	
*230	LABOR	Controller Installation		\$1,300
<b><u>ARMIJO HIGH SCHOOL / Controller "B"</u></b>				
1	SA6-RM8-24	24 Station Stainless Pedestal - Radio Board	\$4,794	
1	RDM	Radio and Dome Antenna Assembly	\$2,601	
*230	LABOR	Controller Installation		\$1,300
1	FSAV-400P	4" Flow Sensor & Master Valve w/ Flow Board Assembly	\$2,320	
1000'	EV-CAB-SEN	Flow Sensor Cable - \$24 per 100'	\$240	
<b><u>CENTRAL EQUIPMENT</u></b>				
1	BEPC1040A-20-4	Barret Booster Pump	\$29,329	
1	EV-WETHR-CENTR	Evolution Weather Center w/ ET Tracker, Wind Speed Sensor, Rain Gauge, Transformer and Hardware	\$7,415	
*230	LABOR	Weather Station Installation		\$1,400
*230	WS/MAINT	Weather Station annual maintenance - 4 visits by UGT		
100'	EV-CAB-WS	Weather Center Cable \$72 per 100' / 1,000' max run	\$72	
1	BRAD	Base Radio Station located at the Central Computer	\$3,660	
*230	LABOR	Base Radio Installation		\$535
	FCC LICENSE	FCC Radio Frequency - 450 to 470 Mhz		\$485
			<b>\$58,261</b>	<b>\$5,020</b>
		Tax	\$4,224	
			\$62,485	
		Labor & License fee	\$5,020	
		<b>Total equipment and labor</b>	<b>\$67,505</b>	

**NOTE: FSAV, EV-CAB-SEN - WS, & GROUND ROD INSTALLATIONS DONE BY OTHERS.**

Prices gauranteed for 30 days.

Submitted by Tony Yarish, District Manager

Rod Moresco, Deputy Director of Public Works  
 Rollie Simons, Park Superintendent  
 Dennis Grunstad, Public Works Project Coordinator  
 City of Vacaville

February 26, 2002

**UNITED GREEN TECH / RAIN MASTER CENTRAL CONTROL IRRIGATION  
 FIVE YEAR WARRANTY / GRANT PROPOSAL**

<u>Qty.</u>	<u>Part #</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>1 A. ARLINGTON PARK PHASE I (combine two existing controllers)</u></b>				
1	SA01-RM8-36	36 Station Painted Wall Mount w/ Radio Board	\$4,485	
1	RDM	Radio w/ Dome Antenna Assembly	\$2,601	
1	RPTR-PH	Phone Repeater	\$6,503	
*230	LABOR	Controller & Repeater Installation		\$1,705
<b><u>1 B. ARLINGTON PARK PHASE 3</u></b>				
1	SA6-RM8-24	24 Station Stainless top entry w/ Radio Board	\$4,794	
1	RDM	Radio w/ Dome Antenna Assembly	\$2,601	
1	FSB	Flow Sensor Board	\$891	
*230	LABOR	Controller Installation		\$1,300
<b><u>2. CANNON STATION PARK (upgrade existing controller)</u></b>				
1	RDM	Radio w/ Dome Antenna Assembly	\$2,601	
1	DX-RF	Radio Board	\$602	
*230	LABOR	Installation Cost		\$345
<b><u>3. CREEKWALK (upgrade existing controllers)</u></b>				
2	RDM	Radio w/ Dome Antenna Assembly	\$5,202	
2	DX-RF	Radio Board	\$1,204	
1	LABOR	Installation Cost		\$345
<b><u>4. CENTENNIAL PARK (upgrade existing controllers)</u></b>				
1	EV-RAD-RETRO	Radio w/ Radio Board	\$2,453	
1	EV-ANT-FD	Dome Antenna Assembly	\$135	
1	SAT UPGRADE	SAT Communication Board Upgrade	\$570	
1	LABOR	Installation Cost		\$750

<u>Qty.</u>	<u>Part #</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>CENTRAL EQUIPMENT</u></b>				
	EV-COMPUTER	Evolution Commercial grade computer, and Printer,		
	3 Year Warranty	with the ROLAID package. Factory loaded.	\$2,470	
		VECTRA VL 420, 1.7 GHZ PENTIUM 4, RAM: 256 MB,		
		HD: 20.0 GB/WINDOWS 2000 ONLY, ZIP DR. IOMEGA		

		250MB, 1.44 FLOPPY DR., INTERNAL MODEM 56K V.90 X2, REQUIRES A DEDICATED PHONE LINE, THREE RS232 Serial Ports, Config. As Com 1 & Com 2, COLOR PRINTER - Deskjet 845c PLUS CABLE, APC BATTERY BACKUP-300VA, Price good for 30 days		
*230	LABOR	Installation Cost		\$535
	EV-CENTRAL	ET based Water Management Central Software	\$6,800	
	AIM	Advanced Irrigation Management - Flow / Pump Management Software	\$3,000	
	BRAD	Base Radio & Antenna Assembly	\$3,660	
*230	LABOR	Installation Cost		\$535
	RFM	Data Modem for phone communications to Radio Repeater.	\$1,848	
	WTHR-CNTR	Evolution Weather Center: ET Tracker, Rain Gauge, Wind Speed Sensor.	\$7,514	
*230	LABOR	Installation Cost		<u>\$1,400</u>
100'	EV-CAB-SEN	Flow Sensor Cable	\$24	
100'	EV-CAB-WS	Weather Sensor Cable	<u>\$72</u>	
			<b>\$60,030</b>	<b><u>\$6,915</u></b>
			Tax	<u>\$4,352</u>
				<u>\$64,382</u>
			Labor	<u>\$8,075</u>
		<b>Total Equipment and Labor</b>	<b>\$72,457</b>	

**Note: All ground rods and underground work to be done by others.**

**Repeater requires 110vac, and a dedicated phone line installed to  
the repeater site, to be provided by others.**

Submitted by Tony Yarish, District Manager

John Hillmon  
 Manager - Building & Grounds  
 Vallejo USD

February 27, 2002

**GT/ETS - RAIN MASTER CENTRAL CONTROL IRRIGATION COST PROPOSAL  
 Five Year Warranty**

<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>	<u>Price</u>	<u>Labor</u>
<b><u>JESSE BETHEL HIGH SCHOOL / CONTROLLER "A" / existing controller A</u></b>				
1	SA6-RM8-42	24 Station Stainless Pedestal - Radio Board	\$6,764	
1	RHG	Radio and High Gain Antenna Assembly	\$3,487	
*230	LABOR	Controller & High Gain Installation		\$1,860
1	FSAV-400P	4" Flow Sensor & Master Valve w/ Flow Board Assembly	\$2,320	
	EV-CAB-SEN	Flow Sensor Cable - \$24 per 100'	\$24	
<b><u>JESSE BETHEL HS / CONTROLLER "B" / combine existing controllers B &amp; C</u></b>				
1	SA6-RM6-48	48 Station Stainless Pedestal -Hardwire Board	\$6,589	
*230	LABOR	Controller Installation & Materials		\$920
<b><u>JESSE BETHEL HS / CONTROLLER "D" / combine existing controllers D &amp; E</u></b>				
1	SA6-RM6-48	48 Station Stainless Pedestal -Hardwire Board	\$6,589	
*230	LABOR	Controller Installation & Materials		\$920
<b><u>CENTRAL EQUIPMENT</u></b>				
1	EV-COMPUTER	Evolution Computer & Printer	\$2,470	
*230	LABOR	Computer & Printer Installation		\$535
	EV-CENTRAL	ET based water management central software	\$6,800	
	AIM	Advanced Irrigation Management - Flow & Pump management software	\$3,000	
1	EV-WETHR-CENTR	Evolution Weather Center w/ ET Tracker, Wind Speed Sensor, Rain Gauge, Transformer and Hardware	\$7,415	
*230	LABOR	Weather Station Installation		\$1,400
200'	EV-CAB-WS	Weather Center Cable \$72 per 100' / 1,000' max run	\$144	
1	BRAD	Base Radio Station located at the Central Computer	\$3,660	
*230	LABOR	Base Radio Installation		\$535
	FCC LICENSE	FCC Radio Frequency - 450 to 470 Mhz		\$485
			<b>\$49,262</b>	<b><u>\$6,655</u></b>
			Tax	<u>\$3,571</u>
				\$52,833
			Labor	<u>\$6,655</u>
<b>Total equipment and labor</b>			<b>\$59,488</b>	

**NOTE: FSAV, FLOW SENSOR, & WEATHER CABLE IN CONDUIT INSTALLATIONS DON'T**  
 Prices guaranteed for 30 days.

Submitted by Tony Yarish, District Manager